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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/145,982	09/03/1998	TOMOHARU HASE	684.2728	6632

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EXAMINER

NGUYEN, HUNG

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/145,982

Applicant(s)

HASE, TOMOHARU

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 27, 33, 40, 49, 55, 61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. As to claims 27, 33, 40, 49, 55 and 61 the recitation of "wherein a straight line connecting apertures of adjacent optical elements is not contained in any of planes including optical axes of the adjacent optical elements, respectively" is vague and is not a positive limitation. It is not clearly understood why the straight line as defined is not contained in any of planes as claimed. It can not be determined the metes and bounds of the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 25 and 42 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Crone (U.S.Pat. 3,624,819).

With respect to claims 25 and 42, Crone teaches an exposure apparatus/method comprising all of the structures as set forth in the instant claim such as: an optical system (fig.1)

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having an optical element (12) having at least one aperture (16) through which a gas/air can be transmitted.

6. Claims 31, 35 and 43, 36-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanimoto et al (U.S.Pat. 4,690,528).

With respect to claims 31 and 43, Tanimoto et al (fig.7) discloses an exposure apparatus comprising all basic features of the instant claims including: an optical system (201) having at least one optical element (L1-L5) and including a supporting portion (205) for supporting at least one optical element and having a plurality of apertures (211-213) through which a gas can flow.

As to claim 35, Tanimoto teaches an illumination optical system (102) for illuminating a reticle (R).

With respect to claims 36-67, Tanimoto et al teaches a gas supply (223); and the optical system having a plurality of spaces (a-d) where the apertures of the two adjacent two lenses are placed "at rotational positions, about an optical axis of the optical system, with angle other than zero degree and 180 degrees"/ or "the a straight line connecting apertures of the adjacent two separating portions is not parallel to any of the optical axes /or is not contain in any of planes including optical axes of the optical elements of the adjacent two separating portion (as clearly illustrated from fig.7).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 26-30, 32-34 are rejected under Tanimoto et al (U.S.Pat. 4,690,528) in view of either U.S.Pat. 5,221,822 to Duny or U.S.Pat. 5,227,605 to Boudot et al.

With respect to claims 26-30 and 32-34, Tanimoto et al (fig.7) discloses an exposure apparatus comprising substantially all of the limitations of the instant claims. Tanimoto et al does not expressly disclose each of the optical element having at least one aperture formed thereon for passing gas. However, this structure is well known per se. For instance, Duny (fig.1) or Boudot (fig.1) teaches optical system comprising lenses having notches formed on the edges of the lenses through which a gas can be passed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide lenses formed with notches on the edge as suggested by Duny or Boudot into the exposure device of Tanimoto et al for the purpose of passing gas between the spaces separated by lenses of the projection optical system. The purpose of using lenses formed with a notch would have been to simplify the structures of the lens barrel whereby the cost of the exposure device can be reduced.

Response to Arguments

9. Applicant's arguments filed December 26, 2002 have been carefully considered. In view of Applicant's remarks and identified passages in the specification, the objection to the drawings and the rejection under 35 U.S.C. 112, first paragraph of claims 27-29, 32-34, 36-46, 48-50, 54-56, 57-67 are withdrawn. However, the rejection of claims 27, 33, 40, 49, 55, 61 under 35 U.S.C. 112, second paragraph is maintained for the reasons as set forth above.

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Turning now to the prior art rejection, applicant's arguments are not found to be persuasive. The applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. In re Yamamoto, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984).

With this in mind, the discussion herein will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted.

In response to applicant's arguments that claim 25 is completely distinguished from Crone; the Examiner respectfully disagrees with the applicant. Crone meets all of the basic features of claim 25 as broadly claimed. Crone discloses a camera (which is an exposure apparatus) and comprising an optical system (11) including a mirror (12)/an optical element having at least one aperture (16) through which a gas/air (for example) can be transmitted.

Applicant also argues that Tanimoto does not suggest a supporting portion for each optical element with plural apertures. Applicant's attention is directed to figure 7. Therein it is clearly disclosed that the optical system (201) having at least one optical element (L1-L5) and including a supporting portion (205) for supporting at least one optical element and having a plurality of apertures (211-213) through which a gas can flow.

As to claims 36-67, Tanimoto et al clearly disclosed a gas supply (223); and the optical system having a plurality of spaces (a-d) where the apertures of the two adjacent two lenses are placed "at rotational positions, about an optical axis of the optical system, with angle other than

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zero degree and 180 degrees”/ or “the a straight line connecting apertures of the adjacent two separating portions is not parallel to any of the optical axes /or is not contain in any of planes including optical axes of the optical elements of the adjacent two separating portion as claimed. Furthermore, the limitations of claims 26-30, 32-34 are met under reference of Tanimoto et al (U.S.Pat. 4,690,528) in view of either U.S.Pat. 5,221,822 to Duny or U.S.Pat. 5,227,605 to Boudot et al as set forth in section 8 and it is noted that applicant does not separately argue the distinct patentability of these claims. Thus, the Examiner believes that these claims are not additionally patentable over and above the patentability of the independent claims.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
January 23, 2003